McDougall's Analysis of Steve Jobs' Death: Simplifications, Correction, and New Insight

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I. INTRODUCTION

A clever and illuminating study of Steve Jobs' 2011 death from pancreatic cancer was published by Dr. John McDougall in 2011. This is available on McDougall's website (www.drmcdougall.com/misc/2011nl/nov/jobs.htm). By postulating reasonable tumor sizes at onset, detection, and death (2011), and knowing the approximate time of detection (2003), it is possible using doubling-time analyses to compute the doubling time, and from this the time from onset to death. McDougall carefully discusses the etiology of the growth from events presented in Walter Isaacson's biography, *Steve Jobs* (2011).

McDougall's calculations were done using a cook-book website designed for the purpose of studying doubling-time events. However part of the calculation performed this way requires some trial-and-error guessing that is not without sacrifice of precision, and still requires some mathematical facility. Although he found the correct time from onset to death, McDougall's doubling time (10 months) is far too short by a factor of 3. The exact analysis presented herein; however, yields results so simple there is no chance of error.

The exact analysis entails solving two equations in two unknowns, and is given in the Appendix below. (The reader should first peruse McDougall's article.)

II. DEFINITIONS

S = Tumor sizes in cm: $S_{\text{onset}} = 0.001$; $S_{2003} = 1$; $S_{2011} = 10$
T = Time from detection to death = 2912 days = 7.97 yr
Y = Time from cancer onset to detection
D = Doubling time

III. THE NEW SIMPLE RESULTS

$$Y = 3T = 23.9 \text{ yr}$$

$$D = T \cdot \log_{10}(2) = 2.40 \text{ yr}$$

$$\text{Total time from onset to death} = 4T = 31.9 \text{ yr}$$

IV. DISCUSSION

Since Jobs was 56 when he died in 2011, the results show he was 24 at his cancer's onset as he lived for almost 32 years with the disease; consequently 1979 was the probable year of onset. The long doubling time, nearly 2 1/2 years, is extremely unusual for pancreatic cancer (typically, 95% of pancreatic cancer patients die within the first 2 1/2 years).

McDougall claims working with solder in the early days after Apple was formed was the cause of Jobs' cancer. However, evidently unnoticed by McDougall, 1979 was also the year of a landmark physiological event with a possible connection to Jobs' cancer. The 1979 Nobel Prize in Physiology or Medicine was awarded "for the development of computer assisted tomography (CAT)." Anyone with an inquisitive mind, like Jobs, would certainly have been interested in CAT, especially Jobs since CAT needs a computer to function. Even a quarter of a century or so earlier, curious people of all ages were attracted to Thom McCan shoe stores to view X-ray screens showing their toes wiggling inside their shoes!

In his book, Isaacson says Jobs had received a CAT scan as a regular part of a 1998 routine physical but does not say how far back such exams went. We do know early CAT scans were not regulated in any way by the FDA, and some had been commodified by laymen hucksters who sometimes employed equipment assembled from outmoded war-or-medical-surplus electronics. When the number of CAT scans skyrocketed around the turn of the century, the FDA became involved; radiation exposure had increased 600% between 1980 and 2006 because of CAT.

It is entirely possible a rogue high-voltage pulse might have hit Jobs during a CAT scan circa 1979 and triggered a DNA genetic mutation causing the onset of his cancer. This seems equally, or perhaps more so, as likely as McDougall's conclusion that Jobs' cancer was caused working for HP or soldering circuit boards for the new Apple company. Current data shows:

- A CAT head scan has an effective radiation dose of 100 chest X-rays.
- A CAT abdomen scan has an effective dose of 500 chest X-rays.
- For a 64-slice CAT (male), this goes up to 760 chest X-rays.
- For a 64-slice CAT (female), it is 1070 chest X-rays!

Many medical doctors today are concerned about the cumulative effects of radiation, no longer use CAT scans in periodic health exams, and prescribe MRI's in lieu of CAT scans when possible. The AMA, AHA, and the American College of Radiology do not recommend routine CAT scans, and the FDA has never approved CAT for screening any part of the body [see Ch.6 of Michael Ozner's book, *The Great American Heart Hoax* (2008)].

Jobs' lifestyle and 32-years spent with cancer in his belly may be, in some way, a testament either to the efficacy of a strict vegan diet, as practiced by Jobs, or to the Gerson Therapy (a vegan/no-salt/juicing dietary cure for cancer scorned by allopathic medicine) and/or to the benefits of unpasteurized organic, freshly-made carrot, carrot-apple, and green juices (consumed daily by Jobs, and also scorned by mainstream medicine). The long doubling time suggests Jobs' juicing might have been killing cancer cells as they were produced. Finally, if Jobs had followed the full Gerson Therapy, he might be alive today. See Dr. Max Gerson's book, *A Cancer Therapy and the Cure of Advanced Cancer by Diet Therapy* (1958) and the website of the Gerson Institute founded by Gerson's daughter, Charlotte: www.gerson.org. At 93, she is still active and travels around the world giving lectures on the Gerson Therapy.

V. APPENDIX: DERIVATION OF RESULTS:

A. INITIAL TUMOR GROWTH FROM ONSET TO DETECTION

$$S_{2003} = S_{\text{onset}} \cdot 2^{Y/D}$$

$$1 = 0.001 \cdot 2^{Y/D}$$

$$1000 = 2^{Y/D}$$

Taking logarithms to the base 2 of each side and rearranging shows:

$$D \cdot \log_2(10) = Y/3 \qquad (1)$$

B. TUMOR GROWTH FROM DETECTION TO DEATH

$$S_{2011} = S_{2003} \cdot 2^{T/D}$$

$$10 = 2^{T/D}$$

Again, taking logarithms to the base 2 gives:

$$D \cdot \log_2(10) = T \qquad (2)$$

Equating the right-hand sides of (1) and (2) results in:

$$Y = 3T$$

Finally, using the base-switch rule [$\log_2(10) \cdot \log_{10}(2) = 1$] in (2) leads to

$$D = T \cdot \log_{10}(2)$$

C. CHECK: OVERALL TUMOR GROWTH FROM ONSET TO DEATH

$$S_{2011} = S_{\text{onset}} \cdot 2^{4T/D} = 10 \text{ cm}$$ **QED**